

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 6, 13, 16, 17 and 19-22, and AMEND claims 1-5, 7-12, 14, 15 and 18 in accordance with the following:

1. (Currently Amended) An object handling apparatus for handling an object to transfer the object from an first object supply place to an ~~second~~ install place of a machine with a predetermined position/orientation, ~~said~~ the apparatus comprising:

a movable device ~~movable independently of the robot~~ adjacent to the object supply place delivering the object;

~~means~~ a first visual sensor provided at the movable device, ~~for detecting a~~ position/orientation of the object on the movable device ~~held by the robot hand relative to the robot hand; and~~

a first robot picking up the object from the movable device based on position/orientation of the object output from the first visual sensor to a first robot controller, the first robot having ~~including~~ a first robot hand, the first robot hand including a plurality of fingers for holding the object, wherein the fingers are driven by one or more servomotors controlled by the first robot controller so that a position and a force of gripping by the fingers on the object is controlled; and

a second visual sensor detecting a position/orientation of the object in the first robot hand, wherein

the detected position/orientation of the object held by the robot hand is output to the first robot controller from the second visual sensor,

the first robot controller calculates a displacement of the detected position/orientation of the object in the first robot hand from a predetermined position/orientation,

the first robot controller drives the plurality of fingers to compensate for the displacement of the position/orientation of the object, and

when the position/orientation of the object has been compensated for, the first robot delivers the object to the install place of the machine ~~compensating means for compensating for the~~

~~position/orientation of the robot hand for transferring the object to the second place based on the position/orientation of the object relative to the robot hand detected by said detecting means.~~

2. (Currently Amended) ~~An~~The object handling apparatus according to claim 1, wherein the object is transferred to a jig of a machine tool at the ~~second~~install place of the machine.

3. (Currently Amended) ~~An~~The object handling apparatus according to claim 1, wherein ~~said robot hand has fingers driven by one or more servomotor~~the first visual sensor is a two dimensional sensor.

4. (Currently Amended) ~~An~~The object handling apparatus according to claim ~~3~~1, wherein ~~said robot hand holds the object by positioning of the fingers by the one or more servomotors in accordance with a shape of the object~~the first visual sensor is a three dimensional sensor.

5. (Currently Amended) An object handling apparatus according to claim ~~3~~1, wherein ~~command torques to the one or more servomotors for driving the fingers of said robot hand are altered~~ the first robot controller controls the one or more servomotors to further control the torque placed on the object by the fingers.

6. (Cancelled)

7. (Currently Amended) ~~An object handling apparatus for handling an object to a method of transferring the an~~ object from an ~~first~~object supply place to an ~~second~~install place ~~with predetermined position/orientation, said apparatus comprising:~~

determining a position/orientation of the object at the object supply place with a first visual sensor, the first visual sensor being provided at the object supply place~~a robot having a robot hand for holding the object;~~

picking up the object with a first robot hand having a plurality of fingers based on the position/orientation of the object as determined by the first visual sensor~~first detecting means for detecting a position of the object supplied to the first place;~~

moving the first robot hand to an image capturing position and determining a position/orientation of the object in the robot hand with a second visual sensor~~control means for~~

~~moving the robot hand to a holding position for holding the object using the detected position of the object detected by said first detecting means and for controlling the robot hand to hold the object at the holding position;~~

~~adjusting the plurality fingers of the first robot hand to compensate for a difference between the position/orientation of the object in the robot hand from the second visual sensor and a predetermined position/orientation of the object in the robot hand~~~~a movable device movable independently of the robot;~~

~~moving the first robot hand to the install place~~~~second detecting means provided at the movable device, for detecting a position/orientation of the object held by the robot hand relative to the robot hand; and~~

~~opening the first robot hand and delivering the object to the install place~~~~moving means for moving said robot hand or said second detecting means such that said robot hand holding the object has a predetermined detecting position/orientation relative to said second detecting means; and~~

~~compensating means for automatically compensating for the position/orientation of the robot hand predetermined for transferring the object to the second place based on the position/orientation of the object held by the robot hand relative to the robot hand detected by said second detecting means.~~

8. (Currently Amended) ~~An object handling apparatus~~The method according to claim 7, wherein ~~said the first detecting means~~visual sensor comprises a two-dimensional visual sensor.

9. (Currently Amended) ~~An object handling apparatus~~The method according to claim 7, wherein ~~said the first detecting means~~visual sensor comprises a three-dimensional visual sensor.

10. (Currently Amended) ~~An object handling apparatus~~The method according to claim 7, wherein ~~said the second detecting means~~visual sensor comprises a two-dimensional visual sensor.

11. (Currently Amended) ~~An object handling apparatus~~The method according to claim 7, wherein ~~said the second detecting means~~visual sensor comprises a three-dimensional visual sensor.

12. (Currently Amended) ~~An object handling apparatus~~The method according to claim 7, wherein ~~said~~the first ~~detecting means~~visual sensor functions as ~~said~~the second ~~detecting means~~visual sensor.

13. (Cancelled)

14. (Currently Amended) ~~An object handling apparatus~~The method according to claim 7, wherein the object is transferred to a jig of a machine tool at the ~~second~~install place.

15. (Currently Amended) ~~An object handling apparatus~~The method according to claim 7, wherein ~~said~~the plurality of fingers of the first robot hand ~~has fingers~~are driven by one or more servomotors.

16-17. (Cancelled)

18. (Currently Amended) ~~An object handling apparatus~~The method according to claim 15, wherein ~~said~~the one or more servomotors for driving the fingers of ~~said~~the first robot hand are controlled by a controller of ~~said~~the first robot.

19-23. (Cancelled)